STIC Search Report
Biotech-Chem Library

STIC Database Tracking Number: 134556

TO: Ralph J Gitomer
Location: 3d65 / 3e71
Art Unit: 1651
Thursday, October 07, 2004

Case Serial Number: 09/857433

From: Noble Jarrell
Location: Biotech-Chem Library
Rem 1B71
Phone: 272-2556

Noble.jarrell@uspto.gov

Search Notes

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=> b reg
FILE 'REGISTRY' ENTERED AT 09:13:47 ON 07 OCT 2004
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:    5 OCT 2004  HIGHEST RN 757166-57-7
DICTIONARY FILE UPDATES:   5 OCT 2004  HIGHEST RN 757166-57-7

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> d ide l17 tot

L17  ANSWER 1 OF 26  REGISTRY  COPYRIGHT 2004 ACS on STN
RN   756484-33-0  REGISTRY
CN   L-Homocysteine, trifluoroacetate (9CI)  (CA INDEX NAME)
FS   STEREOSEARCH
MF   C4 H9 N O2 S . C2 H F3 O2
SR   CA
LC   STN Files:   CAPLUS
DT.CA  CAplus document type:  Journal
RL.NP  Roles from non-patents:  PREP (Preparation)

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     CRN  6027-13-0
     CMF  C4 H9 N O2 S

Absolute stereochemistry.
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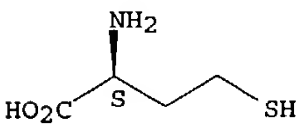

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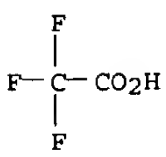

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                1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17  ANSWER 2 OF 26  REGISTRY  COPYRIGHT 2004 ACS on STN
RN   454679-15-3  REGISTRY
CN   L-Homocysteine, monohydrate (9CI)  (CA INDEX NAME)
FS   STEREOSEARCH
MF   C4 H9 N O2 S . H2 O
SR   CA
LC   STN Files:   CA, CAPLUS, USPATFULL
DT.CA  CAplus document type:  Patent
RL.P   Roles from patents:  BIOL (Biological study); USES (Uses)
CRN  (6027-13-0)
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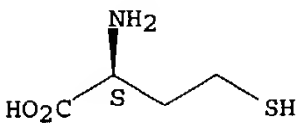
Searched by Noble Jarrell

Absolute stereochemistry.

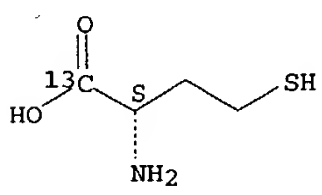


● H_2O

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 3 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 249509-57-7 REGISTRY
CN **L-Homocysteine-1-13C (9CI)** (CA INDEX NAME)
FS STEREOSEARCH
MF **C4 H9 N O2 S**
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

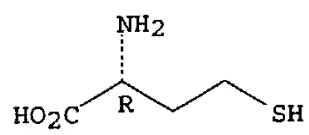
Absolute stereochemistry.



2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 4 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 221040-52-4 REGISTRY
CN **D-Homocysteine, hydrochloride (9CI)** (CA INDEX NAME)
FS STEREOSEARCH
MF **C4 H9 N O2 S . Cl H**
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: RACT (Reactant or reagent)
CRN (6027-14-1)

Absolute stereochemistry.



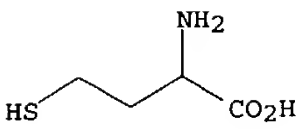
● HCl

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 5 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 160568-38-7 REGISTRY
CN **Homocysteine, labeled with deuterium (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **DL-Homocysteine, labeled with deuterium**
MF **C4 H9 N O2 S**
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: ANST (Analytical study)

Searched by Noble Jarrell

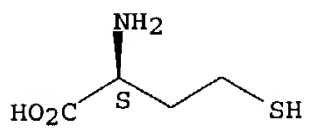
IL XH-2



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 6 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 146764-55-8 REGISTRY
CN **L-Homocysteine, labeled with deuterium (9CI)** (CA INDEX NAME)
FS STEREOSEARCH
MF **C4 H9 N O2 S**
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: ANST (Analytical study)
IL XH-2

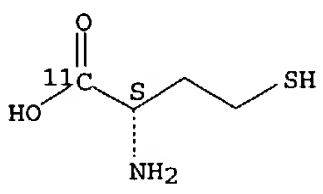
Absolute stereochemistry.



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 7 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 122665-63-8 REGISTRY
CN **L-Homocysteine-1-11C (9CI)** (CA INDEX NAME)
FS STEREOSEARCH
MF **C4 H9 N O2 S**
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: BIOL (Biological study)

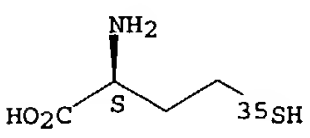
Absolute stereochemistry.



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 8 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 106647-41-0 REGISTRY
CN **L-Homocysteine-35S (9CI)** (CA INDEX NAME)
FS STEREOSEARCH
MF **C4 H9 N O2 S**
SR CA
LC STN Files: CA, CAPLUS, CASREACT
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)

Absolute stereochemistry.

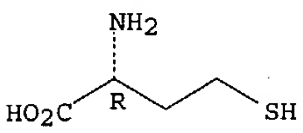


Searched by Noble Jarrell

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 9 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 88945-99-7 REGISTRY
CN **D-Homocysteine, monosodium salt (9CI)** (CA INDEX NAME)
FS STEREOSEARCH
MF **C4 H9 N O2 S . Na**
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT
(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: RACT (Reactant or reagent)
CRN (6027-14-1)

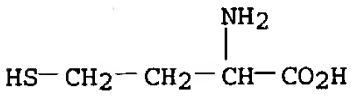
Absolute stereochemistry.



● Na

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 10 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 85712-14-7 REGISTRY
CN **Homocysteine, disodium salt (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **DL-Homocysteine, disodium salt**
MF **C4 H9 N O2 S . 2 Na**
SR European Union (EU)
LC STN Files: BEILSTEIN*, CA, CAPLUS, CHEMLIST, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Patent
RL.P Roles from patents: RACT (Reactant or reagent)
CRN (454-29-5)

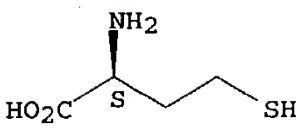


●2 Na

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 11 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 82695-92-9 REGISTRY
CN **L-Homocysteine, monosodium salt (9CI)** (CA INDEX NAME)
FS STEREOSEARCH
DR 110880-48-3
MF **C4 H9 N O2 S . Na**
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT
(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation); RACT (Reactant or reagent)
CRN (6027-13-0)

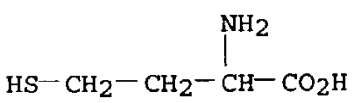
Absolute stereochemistry.



● Na

5 REFERENCES IN FILE CA (1907 TO DATE)
5 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 12 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 73823-57-1 REGISTRY
CN **Homocysteine, monoammonium salt (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **DL-Homocysteine, monoammonium salt**
MF **C4 H9 N O2 S . H3 N**
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: RACT (Reactant or reagent)
CRN (454-29-5)

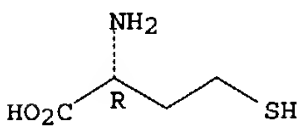


● NH_3

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 13 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 73823-56-0 REGISTRY
CN **D-Homocysteine, monoammonium salt (9CI)** (CA INDEX NAME)
FS STEREOSEARCH
MF **C4 H9 N O2 S . H3 N**
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: PROC (Process)
CRN (6027-14-1)

Absolute stereochemistry.



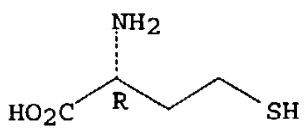
● NH_3

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 14 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 73292-25-8 REGISTRY
CN **D-Homocysteine, sodium salt (9CI)** (CA INDEX NAME)
FS STEREOSEARCH
MF **C4 H9 N O2 S . x Na**
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: BIOL (Biological study)
CRN (6027-14-1)

Searched by Noble Jarrell

Absolute stereochemistry.

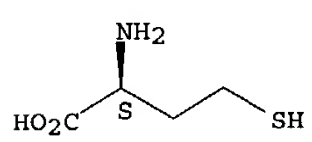


●x Na

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 15 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 73292-23-6 REGISTRY
CN **L-Homocysteine, sodium salt (9CI)** (CA INDEX NAME)
FS STEREOSEARCH
MF **C4 H9 N O2 S . x Na**
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
CRN (6027-13-0)

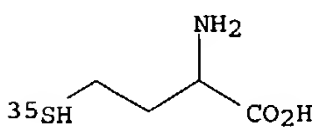
Absolute stereochemistry.



●x Na

8 REFERENCES IN FILE CA (1907 TO DATE)
8 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 16 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 60343-88-6 REGISTRY
CN **Homocysteine-35S (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **DL-Homocysteine-35S**
MF **C4 H9 N O2 S**
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: FORM (Formation, nonpreparative)



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

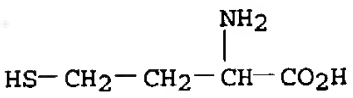
L17 ANSWER 17 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 60177-50-6 REGISTRY
CN **Homocysteine, mixt. with adenosine (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Adenosine, mixt. contg. (9CI)
CN **DL-Homocysteine, mixt. with adenosine**
OTHER NAMES:
CN **Adenosine-DL-homocysteine mixt.**
FS STEREOSEARCH
MF **C10 H13 N5 O4 . C4 H9 N O2 S**
CI MXS
LC STN Files: CA, CAPLUS

Searched by Noble Jarrell

DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: BIOL (Biological study)

CM 1

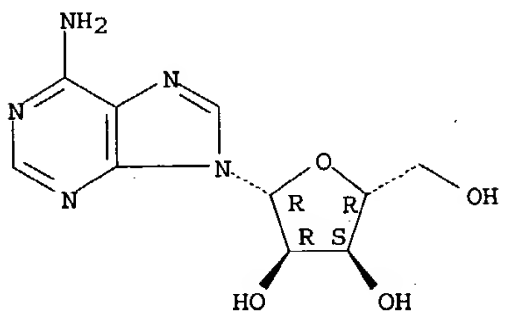
CRN 454-29-5
CMF C4 H9 N O2 S



CM 2

CRN 58-61-7
CMF C10 H13 N5 O4

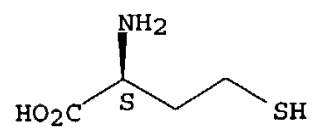
Absolute stereochemistry.



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 18 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 50615-55-9 REGISTRY
CN **L-Homocysteine, disodium salt (9CI)** (CA INDEX NAME)
FS STEREOSEARCH
MF **C4 H9 N O2 S . 2 Na**
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT
(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
CRN (6027-13-0)

Absolute stereochemistry.

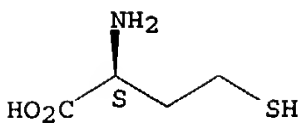


●2 Na

10 REFERENCES IN FILE CA (1907 TO DATE)
10 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 19 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 35605-88-0 REGISTRY
CN **L-Homocysteine, hydriodide (9CI)** (CA INDEX NAME)
FS STEREOSEARCH
MF **C4 H9 N O2 S . H I**
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: RACT (Reactant or reagent)
CRN (6027-13-0)

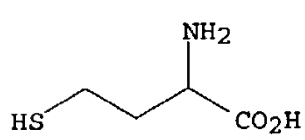
Absolute stereochemistry.



● HI

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

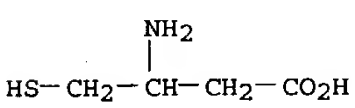
L17 ANSWER 20 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 28223-71-4 REGISTRY
CN **Homocysteine, monosodium salt (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Butyric acid, 2-amino-4-mercapto-, monosodium salt, DL- (8CI)
CN **DL-Homocysteine, monosodium salt**
OTHER NAMES:
CN DL-Homocysteate sodium
MF **C4 H9 N O2 S . Na**
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)
DT.CA CAplus document type: Conference; Journal
RL.NP Roles from non-patents: BIOL (Biological study); PROC (Process); PRP (Properties); RACT (Reactant or reagent)
CRN (454-29-5)



● Na

9 REFERENCES IN FILE CA (1907 TO DATE)
9 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 21 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 21100-02-7 REGISTRY
CN Butanoic acid, 3-amino-4-mercapto- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Butyric acid, 3-amino-4-mercapto- (8CI)
OTHER NAMES:
CN **.beta.-Homocysteine**
FS 3D CONCORD
MF **C4 H9 N O2 S**
CI COM
LC STN Files: BEILSTEIN*, BIOSIS, CA, CAPLUS, CASREACT, TOXCENTER
(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: BIOL (Biological study); NORL (No role in record)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

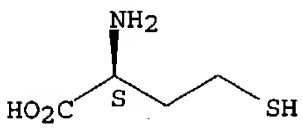
6 REFERENCES IN FILE CA (1907 TO DATE)
6 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 22 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 20244-20-6 REGISTRY
CN **L-Homocysteine, hydrochloride (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Butyric acid, 2-amino-4-mercapto-, hydrochloride (8CI)

Searched by Noble Jarrell

FS STEREOSEARCH
MF **C4 H9 N O2 S . Cl H**
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
DT.CA CAplus document type: Conference; Journal; Patent
RL.P Roles from patents: BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
RL.NP Roles from non-patents: BIOL (Biological study); RACT (Reactant or reagent)
CRN (6027-13-0)

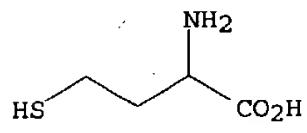
Absolute stereochemistry.



● HCl

4 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 23 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 18265-50-4 REGISTRY
CN **Homocysteine, hydrochloride (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Butyric acid, 2-amino-4-mercapto-, hydrochloride, DL- (8CI)
CN **DL-Homocysteine, hydrochloride**
OTHER NAMES:
CN **D,L-Homocysteine hydrochloride**
MF **C4 H9 N O2 S . Cl H**
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: PROC (Process); RACT (Reactant or reagent); NORL (No role in record)
RL.NP Roles from non-patents: BIOL (Biological study); RACT (Reactant or reagent)
CRN (454-29-5)

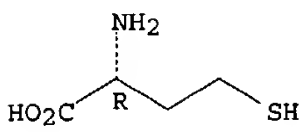


● HCl

6 REFERENCES IN FILE CA (1907 TO DATE)
6 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 24 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 6027-14-1 REGISTRY
CN **D-Homocysteine (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Butyric acid, 2-amino-4-mercapto-, D- (8CI)
FS STEREOSEARCH
MF **C4 H9 N O2 S**
CI COM
LC STN Files: BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAPLUS, CASREACT, CHEMINFORMRX, GMELIN*, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); RACT (Reactant or reagent)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); NORL (No role in record)
RLD.NP Roles for non-specific derivatives from non-patents: PREP (Preparation)

Absolute stereochemistry.

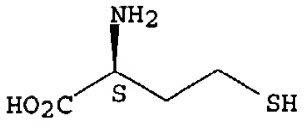


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

39 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
39 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 25 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 6027-13-0 REGISTRY
CN **L-Homocysteine (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Butyric acid, 2-amino-4-mercapto-, L- (8CI)
OTHER NAMES:
CN (S)-2-Amino-4-mercaptobutanoic acid
CN **(S)-Homocysteine**
CN 2-Amino-4-mercapto-L-butyric acid
CN 2-Amino-4-mercaptobutyric acid
CN Butanoic acid, 2-amino-4-mercapto-, (S)-
CN **Homocysteine**
CN NSC 43117
FS STEREOSEARCH
DR 454-28-4, 1867-00-1
MF **C4 H9 N O2 S**
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DDFU, DIOGENES, DRUGU, EMBASE, GMELIN*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, PIRA, PROMT, RTECS*, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Book; Conference; Dissertation; Journal; Patent; Report
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.P Roles for non-specific derivatives from patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

Absolute stereochemistry.



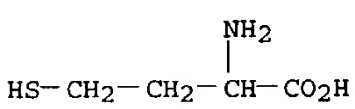
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

5016 REFERENCES IN FILE CA (1907 TO DATE)
83 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
5039 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L17 ANSWER 26 OF 26 REGISTRY COPYRIGHT 2004 ACS on STN
RN 454-29-5 REGISTRY

Searched by Noble Jarrell

CN **Homocysteine (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Butyric acid, 2-amino-4-mercapto-, DL- (8CI)
CN **DL-Homocysteine**
OTHER NAMES:
CN **(.+-.)-Homocysteine**
CN NSC 206252
FS 3D CONCORD
DR 115154-46-6
MF **C4 H9 N O2 S**
CI COM
LC STN Files: ADISNEWS, AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DIOGENES, GMELIN*, HODOC*, IFICDB, IFIPAT, IFIUDB, MEDLINE, PIRA, PROMT, RTECS*, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Conference; Journal; Patent
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); CMBI (Combinatorial study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.NP Roles for non-specific derivatives from non-patents: BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

412 REFERENCES IN FILE CA (1907 TO DATE)
11 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
413 REFERENCES IN FILE CAPLUS (1907 TO DATE)
4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> d ide l18 tot

L18 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 9024-41-3 REGISTRY
CN Desulfhydrase, homocysteine (9CI) (CA INDEX NAME)
OTHER NAMES:
CN E.C. 4.4.1.2
CN Homocysteinase
CN Homocysteine .alpha.,.gamma.-lyase
CN Homocysteine desulfhydrase
CN **Homocysteine desulfurase**
MF Unspecified
CI MAN
LC STN Files: BIOSIS, CA, CAPLUS, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses)
RLD.P Roles for non-specific derivatives from patents: ANST (Analytical study); BIOL (Biological study); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses); NORL (No role in record)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
31 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
31 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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     (FILE 'HOME' ENTERED AT 08:25:15 ON 07 OCT 2004)

     FILE 'HCAPLUS' ENTERED AT 08:25:28 ON 07 OCT 2004
L1        945704 BODY FLUID+OLD,NT/CT
L2         51989 IMMUNOASSAY+OLD,NT/CT
L3          6502 IMMUNOCHEMICAL ANALYSIS/CT (L) ?ASSAY?/BI
L4          1965 MICROTITER PLATES/CT
L5          2125 MICROANALYSIS+NT/CT
L6           442 MICROCHEMISTRY/CT
L7          2166 LABORATORY WARE+NT/CT (L) (MICROPLATE? OR MICROTIT?)
L8            45 MICROTITRATION/CT
L9         11949 TEST KITS/CT
L10          506 CLINICAL ANALYZERS/CT
L11          850 ANALYS!S/CW (L) (CLIN? (L) APP?)
L12        11410 L1 AND L2-11
L13         7719 L12 AND (PY<=2000 OR PRY<=2000 OR AY<=2000 OR PD<20000410 OR AD

     FILE 'REGISTRY' ENTERED AT 09:09:09 ON 07 OCT 2004
L14          239 C4H9NO2S
L15           31 L14 AND HOMOCYSTEINE
L16           29 L15 NOT ((PMS OR MAN OR IDS)/CI OR COMPD OR COMPOUND OR UNSPECI
L17           26 L16 NOT (D OR T)/ELS
L18            1 HOMOCYSTEINE (1A) (DESULPHURASE OR DESULFURASE)

     FILE 'HCAPLUS' ENTERED AT 09:14:54 ON 07 OCT 2004
L19         5467 L17
L20         9204 HOMOCYSTEINE OR (BUTYRIC OR BUTANOIC) (1A) ACID (1A) AMINO (1A)
L21           31 L18
L22           68 (DESULFHYDRASE OR DESULPHHYDRASE OR DESULPHYDRASE OR DESULFURAS
L23           31 L13 AND L19-20
L24            7 L23 AND L21-22
                 E CONNELLY C/AU
L25           12 E3-4,E18
                 E BRADY J/AU
L26           49 E49-53,E3,E6,E8,E13
L27           24 (AXIS AND SHIELD)/CS,PA
L28            1 L24 AND L25-26
L29            1 L24 AND L27
L30            1 L28-29
L31            6 L24 NOT L30

     FILE 'WPIX' ENTERED AT 10:08:50 ON 07 OCT 2004
L32           13 ((DESULFHYDRASE OR DESULPHHYDRASE OR DESULPHYDI
L33         1428 C12Q001-527/IC,ICS,ICM OR (B04-B02C5 OR C04-B0:
                 E HOMOCYSTEINE DESULFUPHURASE/DCN
                 E HOMOCYSTEINE DESULPHURASE/DCN
                 E HOMOCYSTEINE DESULFURASE/DCN
                 E HOMOCYSTEINE/DCN
                 E E3+ALL
L34          175 R01646/DCN OR 1646/DRN
L35          588 (HOMOCYSTEINE OR (BUTYRIC OR BUTANOIC) (1A) ACID (1A) AMINO (1A

     FILE 'HCAPLUS' ENTERED AT 10:20:58 ON 07 OCT 2004
L36         9204 HOMOCYSTEINE OR (BUTYRIC OR BUTANOIC) (1A) ACID (1A) AMINO (1A)

     FILE 'WPIX' ENTERED AT 10:21:39 ON 07 OCT 2004
L37        47526 G01N033-48/IC,ICM,ICS OR (B04-B04B? OR C04-B04B? OR B04-B04D? O
L38        40964 G01N033-53/IC,ICM,ICS OR S03-E14H4/MC
L39         8891 L37 AND L38
L40           44 L39 AND L32-33
L41            3 L40 AND L34-35
                 E CONNELLY C/AU
L42            4 E3
                 E BRADY J/AU
L43           96 E3,E6-7,E15
L44           33 (AXIS AND SHIELD)/CS,PA
L45            0 L41 AND L42-43
L46            0 L41 AND L44
L47            0 L41 NOT (PY>2000 OR AY>2000 OR PRY>2000)

=> b hcap
FILE 'HCAPLUS' ENTERED AT 10:28:09 ON 07 OCT 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)
```

l 30: Applicant

FILE COVERS 1907 - 7 Oct 2004 VOL 141 ISS 15
FILE LAST UPDATED: 6 Oct 2004 (20041006/ED)

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> d all l30

L30 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:763310 HCAPLUS
DN 135:300667
ED Entered STN: 19 Oct 2001
TI **Homocysteine** assay in a body fluid sample
IN Connoly, Caroline; **Brady, Jeff**
PA **Axis-Shield** ASA, UK
SO PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G01N033-48
CC 9-2 (Biochemical Methods)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001077670	A2	20011018	WO 2001-GB1615	20010410 <--
	WO 2001077670	A3	20020516		
	W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1272661	A2	20030108	EP 2001-919648	20010410 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2003530574	T2	20031014	JP 2001-574876	20010410 <--
	US 2003040030	A1	20030227	US 2002-857433	20020305 <--
PRAI	GB 2000-8784	A	20000410	<--	
	WO 2001-GB1615	W	20010410		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2001077670	ICM	G01N033-48

AB The present invention provides an improved method of assessing/quantifying the amount of **homocysteine** in a body fluid sample via an enzymic assay which comprises reducing background signal by treatment with one of the following: a reducing agent, a pyruvate deactivating agent, heat treatment, or by lyophilizing or immobilizing the **homocysteine** converting enzyme.

ST **homocysteine** assay body fluid
IT Reaction
(Cycling; **homocysteine** assay in a body fluid sample)
IT Filters
(Exclusion; **homocysteine** assay in a body fluid sample)
IT Enzymes, uses
RL: ARG (Analytical reagent use); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process); USES (Uses)
(**Homocysteine** converting; **homocysteine** assay in a body fluid sample)
IT Thiols (organic), biological studies

Searched by Noble Jarrell

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(dithiols, binding agent; **homocysteine** assay in a body fluid sample)

IT Immobilization, biochemical
(enzyme; **homocysteine** assay in a body fluid sample)

IT **Blood**
Body fluid
Centrifugation
Concentration (condition)
Cryoprotectants
Erythrocyte
Filters
Filtration
Freeze drying
Heat treatment
Heating
Liquids
Molecular sieves
Neutralization
Oxidation
Reducing agents
Stabilizing agents
Standard substances, analytical
Sulfhydryl group
Test kits
(**homocysteine** assay in a body fluid sample)

IT Enzymes, uses
Reagents
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(**homocysteine** assay in a body fluid sample)

IT Proteins, general, analysis
RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified); ANST (Analytical study); USES (Uses)
(**homocysteine** assay in a body fluid sample)

IT Thiols (organic), biological studies
RL: BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent)
(**homocysteine** assay in a body fluid sample)

IT Enzymes, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(immobilized; **homocysteine** assay in a body fluid sample)

IT Disulfides
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(organic; **homocysteine** assay in a body fluid sample)

IT **6027-13-0, Homocysteine**
RL: ANT (Analyte); ANST (Analytical study)
(**homocysteine** assay in a body fluid sample)

IT 53-84-9, NAD 58-68-4, NADH 74-88-4, Methyl iodide, uses 302-01-2, Hydrazine, uses 541-59-3, Maleimide 3483-12-3, Dithiothreitol 5961-85-3, Triscarboxyethylphosphine 6892-68-8, Dithioerythritol 9001-05-2, Catalase 9001-60-9, Lactate dehydrogenase 9001-96-1, Pyruvate oxidase. 9014-19-1, Pyruvate carboxylase. 9014-20-4, Pyruvate dehydrogenase **9024-41-3, Homocysteine desulfurase** 9025-03-0, Acetoacetate decarboxylase
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(**homocysteine** assay in a body fluid sample)

IT 7722-84-1, Hydrogen peroxide, reactions
RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)
(**homocysteine** assay in a body fluid sample)

IT 462-10-2, Homocystine
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(**homocysteine** assay in a body fluid sample)

IT 127-17-3, Pyruvic acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(**homocysteine** assay in a body fluid sample)

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L31 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:570545 HCAPLUS
DN 139:130391
ED Entered STN: 25 Jul 2003
TI Enzymatic cycling assays for **homocysteine** and cystathionine using enzymes manufactured in transgenic hosts

Searched by Noble Jarrell

IN Kawasaki, Glenn; Webb, Heather Kay; Owens, Jeffrey; Forest, Doreen; Liedtke, Raymond; Lawson, Sobomabo; Legaz, Mark
PA Catch, Inc., USA
SO U.S. Pat. Appl. Publ., 50 pp., Cont.-in-part of U.S. Ser. No. 704,036. CODEN: USXXCO
DT Patent
LA English
IC ICM C12Q001-26
ICS C12Q001-00
NCL 435025000; 435004000
CC 9-2 (Biochemical Methods)
Section cross-reference(s): 3, 7

FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2003138872	A1	20030724	US 2001-12762	20011106 <--
US 6635438	B2	20031021		
US 6664073	B1	20031216	US 2000-704036	20001101 <--
WO 2003040694	A2	20030515	WO 2002-US35777	20021106
WO 2003040694	A3	20040819		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
BR 2002013936	A	20040831	BR 2002-13936	20021106
US 2004096929	A1	20040520	US 2003-651183	20030828 <--
PRAI US 1999-163126P	P	19991102 <--		
US 2000-203349P	P	20000510 <--		
US 2000-704036	A2	20001101 <--		
US 2001-12762	A	20011106		
WO 2002-US35777	W	20021106		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2003138872	ICM	C12Q001-26
	ICS	C12Q001-00
	NCL	435025000; 435004000
US 2003138872	ECLA	C12Q001/26; C12Q001/32; C12Q001/527 <--
US 6664073	ECLA	C12Q001/26; C12Q001/32; C12Q001/527 <--
US 2004096929	ECLA	C12Q001/26; C12Q001/32; C12Q001/527; G01N033/68A2D2 <--

AB An enzymic cycling assay for assessing the concentration of **homocysteine** and/or cystathionine in a biol. fluid such as blood, blood derivs., or urine is described. The solution containing **homocysteine** and/or cystathionine is incubated with a cystathionine .beta.-synthase, cystathionine .beta.-lyase and L-serine catalyze the conversion of **homocysteine** form to cystathionine and the reconversion of cystathionine to **homocysteine** with the release of pyruvate and ammonia. The yield of ammonia or pyruvate is a linear function of the concentration of **homocysteine** or cystathionine in the sample. Expression vectors for the manufacture of the enzymes and test kits for carrying out the assay are described. In preferred embodiments, the assays can be conducted in 15 min or less, with a min. of enzyme usage. **Homocysteine** at concns. of 10.mu.M could be detected in 10 min.

ST enzymic cycling assay **homocysteine** cystathionine; cystathionine synthase **lyase** cycling assay **homocysteine**

IT Promoter (genetic element)
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(ADH2, cystathionine-.beta.-synthase gene expression from; enzymic cycling assays for **homocysteine** and cystathionine)

IT Gene, microbial
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(CYS4, cloning and expression of; enzymic cycling assays for **homocysteine** and cystathionine)

IT Transcription factors
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(MetR, complex formation with reduced **homocysteine**; enzymic

cycling assays for **homocysteine** and cystathionine)

IT Diagnosis
(agents; enzymic cycling assays for **homocysteine** and cystathionine)

IT Sensors
(ammonia; enzymic cycling assays for **homocysteine** and cystathionine)

IT Phosphates, miscellaneous
RL: MSC (Miscellaneous)
(buffer; enzymic cycling assays for **homocysteine** and cystathionine)

IT Lipoproteins
RL: REM (Removal or disposal); PROC (Process)
(clearing agent for, reducing solution turbidity; enzymic cycling assays for **homocysteine** and cystathionine)

IT Genetic element
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(consensus sequence for **homocysteine** metabolite binding transcription factor; enzymic cycling assays for **homocysteine** and cystathionine)

IT Bordetella avium
Escherichia coli
Eubacteria
Eukaryota
Haemophilus influenzae
Prokaryote
Rhizobium leguminosarum
Saccharomyces cerevisiae
Yeast
(cystathionine .beta.-synthase and cystathionine .beta.-lyase from; enzymic cycling assays for **homocysteine** and cystathionine)

IT Blood analysis
Blood plasma
Blood serum
DNA sequences
Protein sequences
Test kits
Urine analysis
(enzymic cycling assays for **homocysteine** and cystathionine)

IT Color reaction
Colorimetry
(for assay; enzymic cycling assays for **homocysteine** and cystathionine)

IT Fluorometry
(for determination of **homocysteine**/transcription factor complex; enzymic cycling assays for **homocysteine** and cystathionine)

IT Genetic vectors
(for enzyme expression; enzymic cycling assays for **homocysteine** and cystathionine)

IT Detergents
(for reducing solution turbidity; enzymic cycling assays for **homocysteine** and cystathionine)

IT Transcription factors
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(**homocysteine** metabolite binding, complex formation with reduced **homocysteine**; enzymic cycling assays for **homocysteine** and cystathionine)

IT Diagnosis
(mol.; enzymic cycling assays for **homocysteine** and cystathionine)

IT Immobilization, molecular or cellular
(of fusion protein; enzymic cycling assays for **homocysteine** and cystathionine)

IT Thiols (organic), uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(reducing agent; enzymic cycling assays for **homocysteine** and cystathionine)

IT Reducing agents
(use for assay, for reducing **homocysteine** and mixed disulfides; enzymic cycling assays for **homocysteine** and cystathionine)

IT Buffers
(use in reaction mixture; enzymic cycling assays for **homocysteine** and cystathionine)

Searched by Noble Jarrell

IT 127-17-3, Pyruvic acid, analysis 14798-03-9, Ammonium, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(as analyte; enzymic cycling assays for **homocysteine** and cystathionine)

IT 56-81-5, Glycerol, miscellaneous
RL: MSC (Miscellaneous)
(as buffer component; enzymic cycling assays for **homocysteine** and cystathionine)

IT 72943-20-5D, N-3-Sulfopropylaniline, alkyl derivs. 96497-76-6, N-Ethyl-N-(2-hydroxy-3-sulfopropyl)-m-toluidine
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(as hydrogen donor; enzymic cycling assays for **homocysteine** and cystathionine)

IT 9001-62-1, Lipase
RL: ARU (Analytical role, unclassified); CAT (Catalyst use); ANST (Analytical study); USES (Uses)
(as lipoprotein clearing agent; enzymic cycling assays for **homocysteine** and cystathionine)

IT 10016-20-3, .alpha.-Cyclodextrin
RL: ARU (Analytical role, unclassified); MOA (Modifier or additive use); ANST (Analytical study); USES (Uses)
(as lipoprotein clearing agent; enzymic cycling assays for **homocysteine** and cystathionine)

IT 77-86-1, TRIS 7365-45-9, HEPES
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(buffer; enzymic cycling assays for **homocysteine** and cystathionine)

IT 58-68-4, NADH
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(coenzyme; enzymic cycling assays for **homocysteine** and cystathionine)

IT 53-84-9, NAD+
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(colorimetric determination of; enzymic cycling assays for **homocysteine** and cystathionine)

IT 50-21-5, Lactic acid, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(conversion of pyruvate to, for pyruvate determination; enzymic cycling assays for **homocysteine** and cystathionine)

IT 56-88-2, Cystathionine **6027-13-0, L-Homocysteine**
RL: ANT (Analyte); ANST (Analytical study)
(determination of; enzymic cycling assays for **homocysteine** and cystathionine)

IT 9023-99-8, Cystathionine .beta.-synthase 9023-99-8D, Cystathionine .beta.-synthase, fusion proteins with cystathionine .beta.-lyase 9055-05-4 9055-05-4D, Lyase, cystathionine .beta.-, fusion proteins with cystathionine .beta.-synthase
RL: ARU (Analytical role, unclassified); CAT (Catalyst use); PRP (Properties); ANST (Analytical study); USES (Uses)
(enzymic cycling assays for **homocysteine** and cystathionine)

IT 60-00-4, EDTA, uses
RL: MOA (Modifier or additive use); USES (Uses)
(enzymic cycling assays for **homocysteine** and cystathionine)

IT 9002-92-0, Brij-35 9002-93-1, Triton X-100 9043-30-5, Genapol X-80
RL: MOA (Modifier or additive use); USES (Uses)
(for reducing solution turbidity; enzymic cycling assays for **homocysteine** and cystathionine)

IT 69-78-3, 5,5'-Dithiobis(2-nitrobenzoic acid) 299-11-6, Phenazine methosulfate 956-48-9, 2,6-Dichlorophenolindophenol 1910-42-5, Methyl viologen
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(in colorimetric determination of NAD+; enzymic cycling assays for **homocysteine** and cystathionine)

IT 7722-84-1, Hydrogen peroxide, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(in pyruvate assay; enzymic cycling assays for **homocysteine** and cystathionine)

IT 566966-23-2
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(nucleotide sequence, metR binding element, **homocysteine** assays using; enzymic cycling assays for **homocysteine** and cystathionine)

IT 60-24-2, .beta.-Mercaptoethanol 507-09-5, Thioacetic acid, uses 2465-93-2 3483-12-3, Dithiothreitol 6892-68-8, Dithioerythritol 16971-29-2, Borohydride

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RL: MOA (Modifier or additive use); USES (Uses)
(reducing agent; enzymic cycling assays for **homocysteine** and cystathionine)

IT 9012-96-8, Cystathionine .gamma.-lyase
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); CAT (Catalyst use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(to convert cystathionine to .alpha.-ketoglutarate; enzymic cycling assays for **homocysteine** and cystathionine)

IT 566968-60-3 566968-61-4 566968-62-5 566968-63-6 566968-64-7
566968-65-8 566968-66-9 566968-67-0 566968-68-1 566968-69-2
566968-70-5 566968-71-6 566968-72-7 566968-73-8 566968-74-9
566968-75-0 566968-76-1 566968-79-4
RL: PRP (Properties)
(unclaimed nucleotide sequence; enzymic cycling assays for **homocysteine** and cystathionine using enzymes manufactured in transgenic hosts)

IT 566968-77-2 566968-78-3
RL: PRP (Properties)
(unclaimed protein sequence; enzymic cycling assays for **homocysteine** and cystathionine using enzymes manufactured in transgenic hosts)

IT 9003-99-0, Peroxidase
RL: ARU (Analytical role, unclassified); CAT (Catalyst use); ANST (Analytical study); USES (Uses)
(use for assay; enzymic cycling assays for **homocysteine** and cystathionine)

IT 9001-60-9, Lactate dehydrogenase
RL: ARU (Analytical role, unclassified); CAT (Catalyst use); ANST (Analytical study); USES (Uses)
(use for conversion of pyruvate to lactate; enzymic cycling assays for **homocysteine** and cystathionine)

IT 9001-96-1, Pyruvate oxidase
RL: ARU (Analytical role, unclassified); CAT (Catalyst use); ANST (Analytical study); USES (Uses)
(use for enzymic conversion of pyruvate to hydrogen peroxide; enzymic cycling assays for **homocysteine** and cystathionine)

L31 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:570668 HCAPLUS
DN 137:121906
ED Entered STN: 01 Aug 2002
TI Homogeneous enzymic assay for vitamin B6 and improvements in hydrogen sulfide detection
IN Xu, Mingxu; Han, Qinghong; Tan, Yuying
PA Anticancer, Inc., USA
SO U.S., 14 pp., Cont.-in-part of U.S. 6,066,467.
CODEN: USXXAM
DT Patent
LA English
IC ICM C12Q001-37
ICS C12Q001-00; C12Q001-48; C12Q001-52; C12Q033-53
NCL 435024000
CC 9-2 (Biochemical Methods)
Section cross-reference(s): 14

FAN.CNT 9

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6426194	B1	20020730	US 2000-495889	20000201 <--
	US 6066467	A	20000523	US 1999-340991	19990628 <--
PRAI	US 1999-118031P	P	19990201 <--		
	US 1999-340991	A2	19990628 <--		
	US 1997-899776	B2	19970724 <--		
	US 1997-918214	B2	19970825 <--		
	US 1997-941921	B2	19971001 <--		
	US 1997-974609	A2	19971119 <--		
	US 1998-61337	A2	19980417 <--		
	US 1998-122129	A2	19980724 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6426194	ICM	C12Q001-37
	ICS	C12Q001-00; C12Q001-48; C12Q001-52; C12Q033-53
	NCL	435024000

AB Enzymic methods to determine the concentration of pyridoxal 5'-phosphate (PLP) in biol. fluids are described. The methods of the invention are useful to

assess risk for cardiovascular disease. The assay can be a homogeneous assay using the ability of PLP to function as a co-enzyme for **homocysteinase** and related enzymes and measuring the products of the reaction preferably spectrophotometrically. The invention also includes improvements in sensitivity of assays for measuring hydrogen sulfide production by measuring fluorescence as opposed to absorbance of the oxidized product of H2S with N,N-dialkyl p-phenylene diamine.

ST homogeneous enzymic assay vitamin B6 hydrogen sulfide detection

IT Biological materials
Blood analysis
Blood plasma
Body fluid
Cardiovascular system, disease
Colorimetry
Concentration (condition)
Fluorometry
Human
Optical absorption
Oxidizing agents
Precipitation (chemical)
Reaction
Spectrophotometry
Test kits
UV and visible spectroscopy
(homogeneous enzymic assay for vitamin B6 and improvements in hydrogen sulfide detection)

IT Enzymes, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(homogeneous enzymic assay for vitamin B6 and improvements in hydrogen sulfide detection)

IT **9024-41-3, Homocysteinase**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(apoenzyme from; homogeneous enzymic assay for vitamin B6 and improvements in hydrogen sulfide detection)

IT 54-47-7, Pyridoxal 5'-phosphate **6027-13-0, Homocysteine**
7783-06-4, Hydrogen sulfide, analysis 8059-24-3, Vitamin B6
RL: ANT (Analyte); ANST (Analytical study)
(homogeneous enzymic assay for vitamin B6 and improvements in hydrogen sulfide detection)

IT 106-50-3D, p-Phenylene diamine, dialkyl derivs. 2836-02-4, N,N-Dibutyl p-phenylene diamine 7439-92-1D, Lead, ion, uses 9012-96-8, Cysteine lyase 42616-25-1, Methioninase
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(homogeneous enzymic assay for vitamin B6 and improvements in hydrogen sulfide detection)

RE.CNT 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L31 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:535310 HCAPLUS
DN 133:132107
ED Entered STN: 04 Aug 2000
TI Homogeneous enzymatic assay for vitamin B6 and improvements in H2S detection
IN Xu, Mingxu; Han, Qinghong; Tan, Yuying
PA Anticancer, Inc., USA
SO PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12Q001-00
CC 9-2 (Biochemical Methods)
Section cross-reference(s): 14, 79

FAN.CNT 9

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000044932	A2	20000803	WO 2000-US2721	20000201 <--
	WO 2000044932	A3	20010308		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 6066467	A	20000523	US 1999-340991	19990628 <--
	CA 2361077	AA	20000803	CA 2000-2361077	20000201 <--
	EP 1157128	A2	20011128	EP 2000-910055	20000201 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002535009	T2	20021022	JP 2000-596172	20000201 <--
PRAI	US 1999-118031P	P	19990201 <--		

US 1999-340991	A	19990628	<--
US 1997-899776	B2	19970724	<--
US 1997-918214	B2	19970825	<--
US 1997-941921	B2	19971001	<--
US 1997-974609	A2	19971119	<--
US 1998-61337	A2	19980417	<--
US 1998-122129	A2	19980724	<--
WO 2000-US2721	W	20000201	<--

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2000044932	ICM	C12Q001-00

AB Enzymic methods to determine the concentration of pyridoxal 5'-phosphate (PLP) in biol. fluids are described. The methods of the invention are useful to assess risk for cardiovascular disease. The assay can be a homogeneous assay using the ability of PLP to function as a co-enzyme for **homocysteinase** and related enzymes and measuring the products of the reaction preferably spectrophotometrically. The invention also includes improvements in sensitivity of assays for measuring hydrogen sulfide production by measuring fluorescence as opposed to absorbance of the oxidized product of H2S with N,N-dialkyl p-phenylene diamine.

ST vitamin B6 homogeneous enzyme assay; hydrogen sulfide fluorescence assay; pyridoxal phosphate body fluid enzyme assay

IT Cardiovascular system
(disease, risk for, assessment of; homogeneous enzymic assay for vitamin B6 and improvements in H2S detection)

IT Risk assessment
(for cardiovascular disease; homogeneous enzymic assay for vitamin B6 and improvements in H2S detection)

IT Blood analysis
Body fluid
Fluorometry
Oxidizing agents
Spectrophotometry
Test kits
(homogeneous enzymic assay for vitamin B6 and improvements in H2S detection)

IT 9012-96-8D, immobilized **9024-41-3D, Homocysteinase**, immobilized 42616-25-1D, Methioninase, immobilized
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(apoenzyme of; homogeneous enzymic assay for vitamin B6 and improvements in H2S detection)

IT **6027-13-0, Homocysteine** 8059-24-3, Vitamin B6
RL: ANT (Analyte); ANST (Analytical study)
(homogeneous enzymic assay for vitamin B6 and improvements in H2S detection)

IT 7783-06-4, Hydrogen sulfide, analysis
RL: ANT (Analyte); FMU (Formation, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); USES (Uses)
(homogeneous enzymic assay for vitamin B6 and improvements in H2S detection)

IT 54-47-7, Pyridoxal 5'-phosphate
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(homogeneous enzymic assay for vitamin B6 and improvements in H2S detection)

IT 106-50-3D, p-Phenylene diamine, N,N-dialkyl derivs. **454-29-5, Homocysteine** 13746-66-2, Potassium ferricyanide
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(homogeneous enzymic assay for vitamin B6 and improvements in H2S detection)

IT 7439-92-1, Lead, biological studies
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(ion; homogeneous enzymic assay for vitamin B6 and improvements in H2S detection)

IT 9012-96-8 **9024-41-3, Homocysteinase** 42616-25-1, Methioninase
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(pyridoxal 5'-phosphate-dependent, apoenzyme of; homogeneous enzymic assay for vitamin B6 and improvements in H2S detection)

Searched by Noble Jarrell

L31 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:344073 HCAPLUS
DN 133:2202
ED Entered STN: 24 May 2000
TI High specificity **homocysteine** enzymic assays for biological samples
IN Xu, Mingxu; Tan, Yuying; Han, Qinghong; Tang, Li
PA Anticancer, Inc., USA
SO U.S., 37 pp., Cont.-in-part of U.S. Ser. No. 122,129.
CODEN: USXXAM
DT Patent
LA English
IC ICM C12Q001-37
ICS C12Q001-00
NCL 435023000
CC 9-2 (Biochemical Methods)
Section cross-reference(s): 3, 7, 14
FAN.CNT 9

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6066467	A	20000523	US 1999-340991	19990628 <--
	US 6140102	A	20001031	US 1997-974609	19971119 <--
	US 5985540	A	19991116	US 1998-61337	19980417 <--
	US 5998191	A	19991207	US 1998-122129	19980724 <--
	CA 2361077	AA	20000803	CA 2000-2361077	20000201 <--
	WO 2000044932	A2	20000803	WO 2000-US2721	20000201 <--
	WO 2000044932	A3	20010308		
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	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1157128	A2	20011128	EP 2000-910055	20000201 <--
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	US 6426194	B1	20020730	US 2000-495889	20000201 <--
	JP 2002535009	T2	20021022	JP 2000-596172	20000201 <--
	US 6468762	B1	20021022	US 2000-549098	20000412 <--
	WO 2001000853	A1	20010104	WO 2000-US17838	20000628 <--
	W: AU, CA, JP				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1210443	A1	20020605	EP 2000-943262	20000628 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
	JP 2003503065	T2	20030128	JP 2001-506845	20000628 <--
PRAI	US 1997-899776	B2	19970724 <--		
	US 1997-918214	B2	19970825 <--		
	US 1997-941921	B2	19971001 <--		
	US 1997-974609	A2	19971119 <--		
	US 1998-61337	A2	19980417 <--		
	US 1998-122129	A2	19980724 <--		
	US 1999-118031P	P	19990201 <--		
	US 1999-340991	A	19990628 <--		
	WO 2000-US2721	W	20000201 <--		
	US 2000-549098	A	20000412 <--		
	WO 2000-US17838	W	20000628 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6066467	ICM	C12Q001-37
	ICS	C12Q001-00
	NCL	435023000
US 6140102	ECLA	C12N009/02F; C12N009/10G; C12Q001/527; G01N033/68A2D2 <--

AB Novel enzymic methods to determine the concentration of **homocysteine** in biol. fluids are described. In a typical embodiment of the invention, the biol. fluid sample is from a patient, and the methods of the invention are useful to assess risk for cardiovascular disease. The novel methods of the invention involve use of particular **homocysteinase** enzymes that permit the determination of **homocysteine** concns. in biol. samples without interference from the concns. of cysteine and/or of methionine

that are routinely present in such samples. There is also provided a diagnostic kit for use in determining the amount of **homocysteine** in a biol. sample comprising (a) a **homocysteinase** having the aforementioned characteristics, and (b) at least one reagent capable of being used to determine the amount of product formed in the **homocysteinase** reaction. In a further aspect, the **homocysteinase** is provided as a chimeric mol. that comprises amino acid subsequences derived from, or patterned on, more than one **homocysteinase**, and which is typically produced from a chimeric polynucleotide that encodes therefor. Addnl. enhancements in **homocysteine** assay methodol. include use of the enzyme .gamma.-glutamylcysteine synthetase to further limit any interference from cysteine present in the biol. samples.

ST **homocysteine** enzyme assay biol fluid; **homocysteinase** chimeric **homocysteine** fluorometry assay

IT Disulfide group
(agent reducing; high specificity **homocysteine** enzymic assays for biol. samples)

IT Cardiovascular system
(disease; high specificity **homocysteine** enzymic assays for biol. samples)

IT Animal tissue
(fluid of; high specificity **homocysteine** enzymic assays for biol. samples)

IT Risk assessment
(for cardiovascular disease; high specificity **homocysteine** enzymic assays for biol. samples)

IT Blood analysis
Body fluid
Buffers
DNA sequences
Detergents
Diagnosis
Enzyme kinetics
Fermentation
Fluorometry
Molecular cloning
Protein sequences
Reducing agents
Surfactants
Test kits
Urine analysis
(high specificity **homocysteine** enzymic assays for biol. samples)

IT Reagents
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(high specificity **homocysteine** enzymic assays for biol. samples)

IT Fusion proteins (chimeric proteins)
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(high specificity **homocysteine** enzymic assays for biol. samples)

IT Gene, microbial
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(high specificity **homocysteine** enzymic assays for biol. samples)

IT Pseudomonas putida
Trichomonas vaginalis
(**homocysteinase** of; high specificity **homocysteine** enzymic assays for biol. samples)

IT 220314-30-7P
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; high specificity **homocysteine** enzymic assays for biol. samples)

IT 77-86-1, Tris buffer 7632-05-5, Sodium phosphate 11129-12-7, Borate
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(buffer; high specificity **homocysteine** enzymic assays for biol. samples)

IT 9023-64-7P, .gamma.-Glutamylcysteine synthetase
RL: ARU (Analytical role, unclassified); BPN (Biosynthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation)
(for reducing interference from cysteine; high specificity

homocysteine enzymic assays for biol. samples)
IT 7783-06-4, Hydrogen sulfide, analysis
RL: ANT (Analyte); FMU (Formation, unclassified); ANST (Analytical study); FORM (Formation, nonpreparative)
(high specificity **homocysteine** enzymic assays for biol. samples)
IT **6027-13-0**, L-**Homocysteine**
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(high specificity **homocysteine** enzymic assays for biol. samples)
IT 60-24-2, .beta.-Mercaptoethanol 93-05-0 99-98-9 106-50-3D, p-Phenylene diamine, N,N-dialkyl derivs. 2836-02-4 3483-12-3, DL-Dithiothreitol 13746-66-2, Potassium ferricyanate 20074-52-6D, compds., uses 51805-45-9, TCEP 105293-89-8
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(high specificity **homocysteine** enzymic assays for biol. samples)
IT **9024-41-3P**, **Homocysteinase**
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); CAT (Catalyst use); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(high specificity **homocysteine** enzymic assays for biol. samples)
IT 250285-33-7P
RL: BPN (Biosynthetic preparation); PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence; high specificity **homocysteine** enzymic assays for biol. samples)
IT 250285-34-8 250289-27-1, 6: PN: US5985540 SEQID: 15 unclaimed DNA 250289-42-0, 7: PN: US5985540 SEQID: 16 unclaimed DNA 250289-56-6, 8: PN: US5985540 SEQID: 17 unclaimed DNA 250289-70-4, 9: PN: US5985540 SEQID: 18 unclaimed DNA 250289-80-6 250289-88-4 250290-12-1
RL: PRP (Properties)
(unclaimed nucleotide sequence; high specificity **homocysteine** enzymic assays for biol. samples)
IT 204021-55-6
RL: PRP (Properties)
(unclaimed protein sequence; high specificity **homocysteine** enzymic assays for biol. samples)
IT 78641-45-9 210887-98-2 220180-64-3 220180-65-4 220180-66-5 220180-67-6 220180-68-7 250249-88-8
RL: PRP (Properties)
(unclaimed sequence; high specificity **homocysteine** enzymic assays for biol. samples)
IT 52-90-4, L-Cysteine, analysis 63-68-3, Methionine, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(without interference from; high specificity **homocysteine** enzymic assays for biol. samples)
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Allen; US 4940658 1990 HCAPLUS
(2) Allen; US 5438017 1995 HCAPLUS
(3) Anon; WO 9315220 1993 HCAPLUS
(4) Anon; WO 9807872 1998 HCAPLUS
(5) Anon; WO 9814562 1998 HCAPLUS
(6) Araki, A; Journal of Chromatography 1987, V422, P43 HCAPLUS
(7) Bagnara, A; Molecular and Biochemical Parasitology 1996, V81, P1 HCAPLUS
(8) Dudman, N; Clinical Chemistry 1996, V42(12), P2028 HCAPLUS
(9) Esaki, N; Methods in Enzymology 1987, V143, P459 MEDLINE
(10) Gage, D; Nature 1997, V387, P891 HCAPLUS
(11) Garg, U; Clinical Chemistry 1997, V43(1), P141 HCAPLUS
(12) Gilfix, B; Clinical Chemistry 1997, V43(4), P687 HCAPLUS
(13) Sundrehagen; US 5631127 1997 HCAPLUS
(14) Sundrehagen; US 5827645 1998 HCAPLUS
(15) Tan; US 5985540 1999 HCAPLUS
(16) van Atta; US 5478729 1995 HCAPLUS

L31 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:779171 HCAPLUS
DN 132:20773
ED Entered STN: 09 Dec 1999
TI High specificity **homocysteine** assays for biological samples
IN Tan, Yuying; Lenz, Martin
PA Anticancer Inc., USA

SO U.S., 33 pp., Cont.-in-part of U.S. Ser. No. 61,337.
CODEN: USXXAM
DT Patent
LA English
IC ICM C12N009-86
ICS C12Q003-00; C07K001-00; C07H021-04
NCL 435232000
CC 9-2 (Biochemical Methods)
Section cross-reference(s): 14
FAN.CNT 9

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5998191	A	19991207	US 1998-122129	19980724 <--
	US 6140102	A	20001031	US 1997-974609	19971119 <--
	US 5985540	A	19991116	US 1998-61337	19980417 <--
	US 6066467	A	20000523	US 1999-340991	19990628 <--
	US 6468762	B1	20021022	US 2000-549098	20000412 <--
PRAI	US 1997-899776	B2	19970724 <--		
	US 1997-918214	B2	19970825 <--		
	US 1997-941921	A2	19971001 <--		
	US 1997-974609	A2	19971119 <--		
	US 1998-61337	A2	19980417 <--		
	US 1998-122129	A2	19980724 <--		
	US 1999-340991	A2	19990628 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5998191	ICM	C12N009-86
	ICS	C12Q003-00; C07K001-00; C07H021-04
	NCL	435232000
US 6140102	ECLA	C12N009/02F; C12N009/10G; C12Q001/527; G01N033/68A2D2 <--

AB Novel enzymic methods to determine the concentration of **homocysteine** in biol. fluids are described. In a typical embodiment of the invention, the biol. fluid sample is from a patient, and the methods of the invention are useful to assess risk for cardiovascular disease. The novel methods of the invention involve use of particular **homocysteinase** enzymes that permit the determination of **homocysteine** concns. in biol. samples without interference from the concns. of cysteine and/or of methionine that are routinely present in such samples. There is also provided a diagnostic kit for use in determining the amount of **homocysteine** in a biol. sample comprising (a) a **homocysteinase** having the aforementioned characteristics, and (b) at least one reagent capable of being used to determine the amount of product formed in the **homocysteinase** reaction. In a further aspect, the **homocysteinase** is provided as a chimeric mol. that comprises amino acid subsequences derived from, or patterned on, more than one **homocysteinase**, and which is typically produced from a chimeric polynucleotide that encodes therefor. Addnl. enhancements in **homocysteine** assay methodol. include use of the enzyme .gamma.-glutamylcysteine synthetase to further limit any interference from cysteine present in the biol. samples.

ST **homocysteine** assay biol

IT Cardiovascular system
(disease; high specificity **homocysteine** assays for biol. samples)

IT Aeromonas
Body fluid
Buffers
Clostridium
Diagnosis
Disulfide group
Protein sequences
Pseudomonas
Pseudomonas putida
Standard substances, analytical
Test kits
Trichomonas
Trichomonas vaginalis
UV and visible spectroscopy
(high specificity **homocysteine** assays for biol. samples)

IT Reagents
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(high specificity **homocysteine** assays for biol. samples)

IT Polynucleotides
RL: ARU (Analytical role, unclassified); BSU (Biological study,

unclassified); ANST (Analytical study); BIOL (Biological study)
(high specificity **homocysteine** assays for biol. samples)
IT 204021-55-6, **Desulfhydrase, homocysteine** (Trichomonas vaginalis gene mgl-1)
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(amino acid sequence; high specificity **homocysteine** assays for biol. samples)
IT 7783-06-4, Hydrogen sulfide, analysis
RL: ANT (Analyte); ARU (Analytical role, unclassified); ANST (Analytical study)
(high specificity **homocysteine** assays for biol. samples)
IT **6027-13-0, Homocysteine**
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(high specificity **homocysteine** assays for biol. samples)
IT 93-05-0 99-98-9 106-50-3D, -p-Phenylenediamine, N,N-dialkyl 2836-02-4 **9024-41-3, Homocysteinase** 13746-66-2, Potassium ferricyanate 20074-52-6, Ferric ion, uses 105293-89-8
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(high specificity **homocysteine** assays for biol. samples)
IT 52-90-4, Cysteine, analysis 63-68-3, Methionine, analysis 3483-12-3, D,L-Dithiothreitol 9002-93-1, Triton x-100 9023-64-7, .gamma.-Glutamylcysteine synthetase 11129-12-7, Borate
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(high specificity **homocysteine** assays for biol. samples)
IT 78641-45-9 210887-98-2 220180-61-0, Ggnrlagqe peptide+ 220180-62-1, Rvckeahsq peptide+ 220180-63-2, Qmrmygsmi peptide+ 220180-64-3 220180-65-4 220180-66-5 220180-67-6 220180-68-7 250249-88-8
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(high specificity **homocysteine** assays for biol. samples)
IT 250285-33-7 250285-34-8 250289-27-1, 6: PN: US5985540 SEQID: 15 unclaimed DNA 250289-42-0, 7: PN: US5985540 SEQID: 16 unclaimed DNA 250289-56-6, 8: PN: US5985540 SEQID: 17 unclaimed DNA 250289-70-4, 9: PN: US5985540 SEQID: 18 unclaimed DNA 250289-80-6 250289-88-4 250290-12-1
RL: PRP (Properties)
(unclaimed nucleotide sequence; high specificity **homocysteine** assays for biol. samples)
RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Allen; US 4940658 1990 HCAPLUS
(2) Allen; US 5438017 1995 HCAPLUS
(3) Anon; WO 9315220 1993 HCAPLUS
(4) Anon; WO 9807872 1998 HCAPLUS
(5) Anon; WO 9814562 1998 HCAPLUS
(6) Araki, A; Journal of Chromatography 1987, V422, P43 HCAPLUS
(7) Bagnara, A; Molecular and Biochemical Parasitology 1996, V81, P1 HCAPLUS
(8) Dudman, N; Clinical Chemistry 1996, V42(12), P2028 HCAPLUS
(9) Esaki, N; Methods in Enzymology 1987, V143, P459 MEDLINE
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(12) Gilfix, B; Clinical Chemistry 1997, V43(4), P687 HCAPLUS
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(14) Inoue, Y; Applied Microbiology and Biotechnology 1993, V38, P473 HCAPLUS
(15) Ito, S; Journal of Biochemistry 1976, V79, P1263 HCAPLUS
(16) Jakubowsky, H; FEBS Letters 1993, V317(3), P237
(17) Kang, S; Annual Review of Nutrition 1992, V12, P279 HCAPLUS
(18) Kerr, R; Science 1997, V276, P703 HCAPLUS
(19) Lockwood, B; Biochemical Journal 1991, V279, P675 HCAPLUS
(20) Markos, A; FEMS Microbiology Letters 1996, V135, P259 HCAPLUS
(21) McCully, K; American Journal of Pathology 1969, V56, P111 MEDLINE
(22) McCully, K; Annals of Clinical and Laboratory Science 1993, V23(6), P477 HCAPLUS
(23) McCully, K; Annals of Clinical and Laboratory Science 1994, V24(2), P134 HCAPLUS
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(25) McCully, K; Nature Medicine 1996, V2(4), P386 HCAPLUS
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(27) Sundrehagen; US 5631127 1997 HCAPLUS
(28) Sundrehagen; US 5827645 1998 HCAPLUS
(29) Tanaka, H; Journal of Applied Biochemistry 1980, V2, P439 HCAPLUS
(30) Van Atta; US 5478729 1995 HCAPLUS
(31) Watanabe, K; Nucleic Acids Research 1986, V14(11), P4393 HCAPLUS

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L31 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:96390 HCAPLUS
DN 130:165151
ED Entered STN: 12 Feb 1999
TI High specificity **homocysteine** assays for biological samples using **homocysteinase**
IN Tan, Yuying; Lenz, Martin; Perry, Andrew W.; Hoffman, Robert M.
PA Anticancer, Inc., USA
SO PCT Int. Appl., 109 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12Q001-25
ICS C12Q001-68
CC 9-2 (Biochemical Methods)
Section cross-reference(s): 3, 6, 7, 10, 14, 34

FAN.CNT 9

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9905311	A1	19990204	WO 1998-US15430	19980724 <--
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 6140102	A	20001031	US 1997-974609	19971119 <--
	US 5985540	A	19991116	US 1998-61337	19980417 <--
	AU 9885127	A1	19990216	AU 1998-85127	19980724 <--
	AU 758729	B2	20030327		
	EP 1000170	A1	20000517	EP 1998-935998	19980724 <--
	R: BE, CH, DE, FR, GB, LI				
	JP 2000513589	T2	20001017	JP 1999-510146	19980724 <--
	JP 3337693	B2	20021021		
PRAI	US 1997-899776	A	19970724 <--		
	US 1997-918214	A	19970825 <--		
	US 1997-941921	A	19971001 <--		
	US 1997-974609	A	19971119 <--		
	US 1998-61337	A2	19980417 <--		
	WO 1998-US15430	W	19980724 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9905311	ICM	C12Q001-25
	ICS	C12Q001-68
US 6140102	ECLA	C12N009/02F; C12N009/10G; C12Q001/527; G01N033/68A2D2 <--

AB The novel methods of the invention involve use of particular **homocysteinase** enzymes that permit the determination of **homocysteine** concns. in biol. samples without interference from the concns. of cysteine and/or of methionine that are routinely present in such samples. There is also provided a diagnostic kit for use in determining the amount of **homocysteine** in a biol. sample comprising (a) a **homocysteinase** having the aforementioned characteristics, and (b) at least one reagent capable of being used to determine the amount of product formed in the **homocysteinase** reaction. In a further aspect, the **homocysteinase** is provided as a chimeric mol. that comprises amino acid subsequences derived from, or patterned on, more than one **homocysteinase**, and which is typically produced from a chimeric polynucleotide that encodes therefor. Addnl. enhancements in **homocysteine** assay methodol. include use of the enzyme .gamma.-glutamylcysteine synthetase to further limit any interference from cysteine present in the biol. samples. This assay may be applied to the diagnosis of cardiovascular diseases.

ST **homocysteine** detn **homocysteinase** DNA sequence Trichomonas; cardiovascular disease diagnosis **homocysteine** detn **homocysteinase**

IT Cardiovascular system
(disease; high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT Animal tissue
(fluid; high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

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Aeromonas
Blood
Blood analysis
Blood plasma
Blood serum
Body fluid
Clostridium
DNA sequences
Diagnosis
Disulfide group
Enzyme functional sites
Escherichia coli
Eukaryote (Eukaryotae)
Prokaryote
Protein sequences
Pseudomonas
Pseudomonas putida
Reducing agents
Test kits
Trichomonas
Trichomonas vaginalis
Urine
Urine analysis
(high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT Amino acids, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT DNA
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT Fusion proteins (chimeric proteins)
RL: ARU (Analytical role, unclassified); BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(**homocysteinase**; high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT Gene, microbial
RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(mgl1; high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT Gene, microbial
RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(mgl2; high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT 204021-55-6, **Desulfhydrase, homocysteine** (Trichomonas vaginalis gene mgl1) 220314-30-7 220314-31-8
RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(amino acid sequence; high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT 10043-35-3, Boric acid (H3BO3), analysis
RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(buffer; high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT 127-17-3, Pyruvic acid, analysis 600-18-0, .alpha.-Ketobutyric acid
RL: ANT (Analyte); ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT 7664-41-7, Ammonia, analysis 7783-06-4, Hydrogen sulfide, analysis
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study,

unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT **6027-13-0**, **L-Homocysteine**
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT 9023-64-7, .gamma.-Glutamylcysteine synthetase 9023-99-8, Cystathionine .beta.-synthetase 37256-59-0, Cysteine oxidase 37318-56-2, Cysteine tRNA synthetase
RL: ARG (Analytical reagent use); ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT **9024-41-3**, **Homocysteinase**
RL: ARG (Analytical reagent use); ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT 9001-60-9, Lactate dehydrogenase 9025-54-1, S-Adenosylhomocysteine hydrolyase 9082-71-7, Leucine dehydrogenase
RL: ARU (Analytical role, unclassified); BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT 63-68-3, L-Methionine, analysis
RL: ARU (Analytical role, unclassified); BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT 52-90-4, L-Cysteine, analysis
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT 93-05-0, N,N-Diethyl-p-phenylenediamine 99-98-9, N,N-Dimethyl-p-phenylenediamine 106-50-3D, p-Phenylenediamine, dialkyl derivative 2836-02-4, N,N-Dibutyl-p-phenylenediamine 7439-89-6, Iron, analysis 13746-66-2, Potassium ferricyanate 20074-52-6, Ferric cation, analysis 105293-89-8, N,N-Dipropyl-p-phenylenediamine
RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT 60-24-2 3483-12-3, DL-Dithiothreitol 5961-85-3, Tris-(2-carboxyethyl)phosphine
RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); RCT (Reactant); ANST (Analytical study); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

IT 56-40-6, Glycine, biological studies 56-41-7, L-Alanine, biological studies 56-45-1, L-Serine, biological studies 56-84-8, L-Aspartic acid, biological studies 56-85-9, L-Glutamine, biological studies 56-86-0, L-Glutamic acid, biological studies 60-18-4, L-Tyrosine, biological studies 61-90-5, L-Leucine, biological studies 63-91-2, L-Phenylalanine, biological studies 70-47-3, L-Asparagine, biological studies 72-18-4, L-Valine, biological studies 72-19-5, L-Threonine, biological studies 73-22-3, L-Tryptophan, biological studies 73-32-5, L-Isoleucine, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(high specificity **homocysteine** assays for biol. samples using **homocysteinase**)

Searched by Noble Jarrell

IT 78641-45-9 210887-98-2 220180-61-0 220180-62-1 220180-63-2
220180-64-3 220180-65-4 220180-66-5 220180-67-6 220180-68-7
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(high specificity **homocysteine** assays for biol. samples using **homocysteinase**)
IT 220314-32-9
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(nucleotide sequence; high specificity **homocysteine** assays for biol. samples using **homocysteinase**)
IT 220314-33-0
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(nucleotide sequence; high specificity **homocysteine** assays for biol. samples using **homocysteinase**)
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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